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Black Hawk- A New Raspberry for the Midwest

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Black Hawk

A New Raspberry for the Midwest

This new raspberry will be available through Iowa nurserymen this coming spring. This article tells the story of what it's like, what it is and its record, and offers some planting suggestions.

by H. L. Lantz and E. L. Denisen

BLACK HAWK is the name of a new black raspberry variety developed by Iowa State College horticulturists and being introduced to the public for the first time this coming spring. It's a hybrid originated by the late Tom Maney of the Iowa Agricultural Experiment Station.

The new variety is being released through a cooperative arrangement with the Iowa State College Committee for Agricultural Development and the Research Committee of the Iowa Nurserymen's Association. Over 100,000 plants will be available to Iowa nurseries for distribution this spring. The spring catalogs of a number of Iowa nurseries will show Black Hawk in color and give details about its qualities. *No plants will be available directly from the college.*

What It's Like . . .

Black Hawk's berries are large —many of them ¾ inch in diameter. They retain their size quite uniformly until the end of the picking season, which lasts 10 days to 2 weeks. The berries are nearly round, with a slightly flattened top, and have a shiny black color with lines of grayish bloom between the drupelets.

The drupelets or berry segments are of medium size, and the berry has little or no tendency to crumble. Berries are firm and stand up well under commercial shipping and handling. The fruit is of excellent quality when used fresh, frozen or in jams, pies or sauces. Its flavor is sweet to mildly acid. And, because of the fleshy nature of the berry, it seems less "seedy" than most varieties.

Black Hawk's plants are vigorous. New shoots, which arise from the base of the plants each spring, are green in color and have light green leaves. When these new shoots are "pinched back" (when 24 to 30 inches tall), they develop strong branches. These provide a large amount of fruiting area per plant.

The 1-year-old fruiting canes are reddish brown in color. The fruiting shoots which come out of them are mostly 10 to 15 inches long. Berries per shoot vary from 10 to 20, with an average of about 14. In contrast with the light green leaves on the new basal shoots, the leaves of the fruiting canes are dark green. The fruits are borne well out near the surface of the foliage so that they're readily seen and easily picked.

What It Is . . .

Black Hawk is one of the seedlings which resulted from the crossing of Quillen and Black Pearl in 1928. Of a number of crosses made by Maney in the 30's, none produced seedlings

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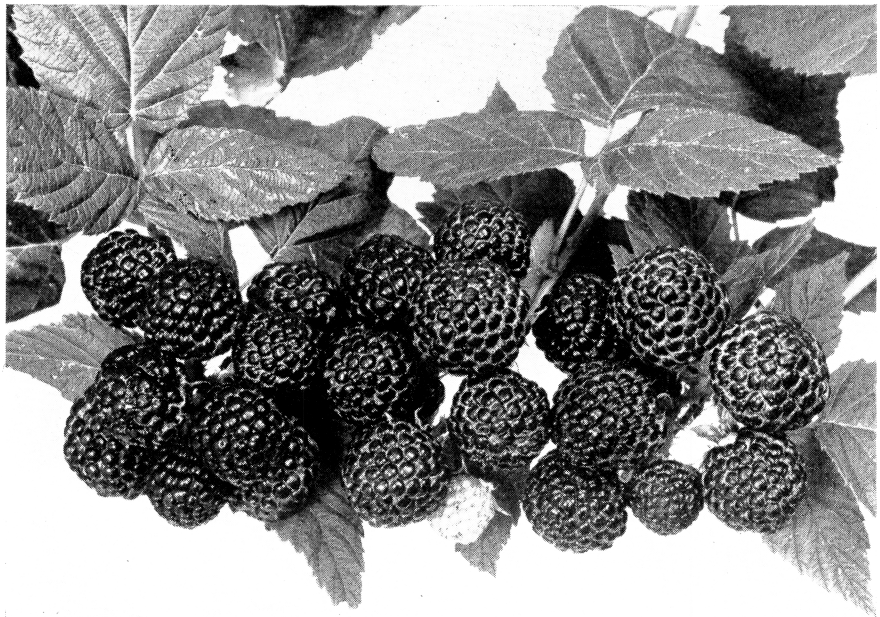


Black Hawk's berries are large, and they retain their size quite uniformly until the end of the picking season—10 to 14 days. The berries are nearly round, with a slightly flattened top and a shiny black color with lines of grayish bloom between the druplets.

quite as good as those produced by the 1928 Quillen x Black Pearl cross.

Of the 90 seedlings produced by this cross, three—Nos. 17, 20 and 51—were selected for further testing. As testing proceeded for the next 20 years, No. 20 (now Black Hawk) was consistently superior to its sister seedlings and to the commonly grown black cap varieties grown for comparison. These included the well-known Cumberland, Gregg and a number of more recent varieties such as Naples, New Logan and Morrison. Black Hawk also proved to be more reliable than either of its parents in growth, hardiness and production.

Why New Varieties?

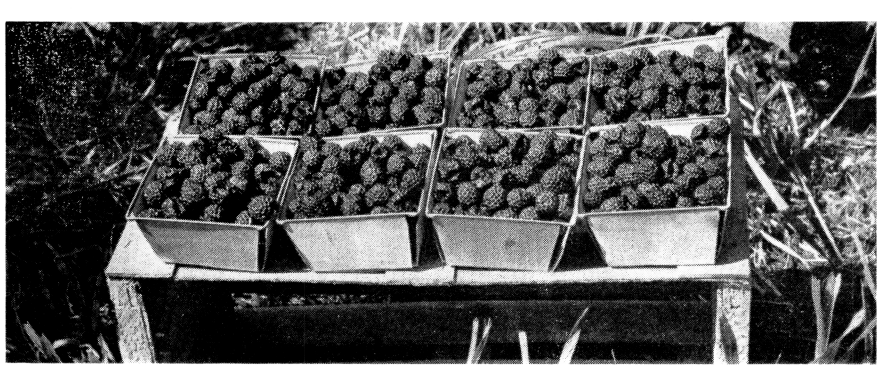
The black or black cap raspberry *(Rubus occidentalis)* was a native fruit of North America. The fruit grew in abundance throughout an area from New England to Minnesota. Colonists were able to find all they wanted in native, wild form. It wasn't until the early 1800's that plants were taken from the wild and put in gardens. Cultivation produced larger and more delicious berries, though little thought was given to the selection of superior seedings at that time.

Later came the discovery that nature propagated new plants of the black cap berry by tip layers which rooted and produced new plants. This gave us the present method for increasing plants and led to the selection of the better types and the naming of varieties. By the late 1800's there were several thousand acres of black raspberries grown in the United States. Hundreds of varieties were introduced between 1850 and 1900. Many more have been introduced during the past 25 years.

The best of the older introductions include Gregg (1866), Cumberland (1896), Black Pearl (1907) and Quillen (1917). By 1920 a considerable acreage of Black Pearl was grown in southwestern Iowa. At that time, it had proved to be the best variety for that area. It had a good record for hardiness, production and market quality. Quillen was introduced as a variety with some resistance to anthracnose.

Sooner or later, growers everywhere have faced failure due to the ravages of anthracnose, a disease that destroys bark tissue on the canes just before fruit ripening. It infects the berries, too, and causes them to become small, hard and "seedy." By and large, anthracnose is a serious limiting factor in black raspberry production. Though new canes may be protected from infections by one or more spray materials, anthracnose isn't easily controlled by spraying or other methods.

Maney knew this and had a wide acquaintance with many varieties. He knew what characteristics were desirable and necessary if people were to get satisfactory yields of berries in garden or commercial plantings. Under Iowa conditions, plants must be winter-hardy, be able to withstand summer heat and be sufficiently resistant to anthracnose to mature their crop. So he set out to produce a better-adapted and, if possible, a more disease-resistant black cap.



The berries of Black Hawk have little tendency to crumble, are firm and stand up well under commercial shipping and handling. The fruit is of excellent quality when used fresh, frozen or in jams, pies or sauces. The flavor itself has been termed sweet to mildly acid.

Black Hawk's Record . . .

Black Hawk is of proved hardiness and production. Its fruit is as good as the best.

This variety has undergone a long period of testing in trials with other well-known varieties and selections. It has been out-

standing in three series of plantings started in 1940, 1946 and 1951 at the Horticulture Farm at Ames and in two series, 1947 and 1949, at the Bluffs Experimental Fruit Farm at Council Bluffs. Favorable reports have also been received from other midwestern states where Black Hawk has been grown under field tests.

The Armistice Day blizzard of 1940 was the most damaging out-of-season freeze for fruit plants in recorded history of the Midwest. But, to a fruit breeder, extreme weather conditions are oftentimes a "blessing in disguise." For nature can then help "weed out" inferior types.

Black Hawk survived the 1940 freeze at Ames; 88 percent of the new fruiting canes survived, and there was no loss of plants. Of the other 15 varieties and selections in the trial, only one—Cumberland—was equal in cane survival. Some varieties were reduced to less than 50 percent living canes.

Several of the test plot areas used in the black raspberry plantings at Ames have been on a heavy Webster loam soil, common to central Iowa. Black Hawk has shown good vigor, rapid growth and excellent production on these soils which aren't generally considered good raspberry soils. It has also shown superior performance on the loess soils of southwestern Iowa and on the more sandy soils of upstate New York where the new variety was propagated for distribution by Iowa nurserymen.

Yield: Black Hawk was considered the most outstanding of the Maney selections by the research horticulturists having a part in its testing program. Though many factors are involved in evaluating a variety or selection, yield is of major importance for the home gardener or commercial grower.

While its beginning harvest is a few days to a week later than most other varieties, Black Hawk has repeatedly been one of the highest yielders. In 8 years of records at Council Bluffs, it has a higher total yield than the other four selections in the test and has yielded as high as 5,006 pints per acre in one season. In another test including 5 years of records of nine varieties and selections, the total yields in pints per 100 feet of row for 1950 through 1954 were as follows.

No. 7	171
No. 20 (Black Hawk)	*189*
No. 46	159
No. 77	148
No. 112	97
New Logan	124
Morrison	104
Cumberland	143
Bristol	170

Black Hawk has not outyielded all other varieties and selections in every year, but it does show a very good continuing record over a period of variable climatic conditions.

Freezing: The ease with which fresh berries can be frozen in home or commercial freezers has contributed to the popularity of frozen berries. An experiment on freezing quality by the late H. H. Plagge furnished the following total scores for black raspberries after 10 months of storage (1946-47):

The scores are the averages of four judges and are based on the flavor, texture, appearance and aroma of the berries after thawing.

No. 7	86.5
No. 20 (Black Hawk)	*96.3*
No. 46	87.6
No. 51	93.1
No. 77	85.8
No. 112	86.7
New Logan	90.3
Quillen	92.5

Planting . . .

Recommended planting distances for Black Hawk in Iowa are 3 to 4 by 8 to 10 feet for commercial planting or where machine cultivation is used and 4 by 8 feet for home gardens. The plants are vigorous and can use these spacings to good advantage.

It's a good plan to use a wire trellis after a planting is established to prevent wind damage to new shoots and to keep fruiting canes off the ground. Instructions for trellising and other phases of raspberry production may be found in Pamphlet 214, "Growing Raspberries in Iowa," available from your county extension director or from the Bulletin Office, Iowa State College.

Black Hawk has consistently been one of the highest yielders—yielding as high as 5,000 pints per acre in one season. It has also scored high in freezing trials conducted during its trial period. Results of these tests are given in the tables above.